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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/586,601 | 06/02/2000 | Shuji Ono | 3562-0103P | 6153 |

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| EXAMINER | |
|---|---|
| WU, DOROTHY | |
| **ART UNIT** | **PAPER NUMBER** |
| 2615 | 7 |

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/586,601 | ONO, SHUJI | |
| | Examiner | Art Unit | |
| | Dorothy Wu | 2615 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-17 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-17 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Claim Objections*

1. Claims 5 and 9 are objected to because of the following informalities.

Regarding claim 5, the claim hyphenates "desired-aimed-objects." The hyphens are not used in other claims.

Regarding claim 9, the claim recites the limitation "inputting parallactic an image" instead of "inputting a parallactic image."

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "said plurality of images formed by said input unit" in the fourth line of the claim. There is insufficient antecedent basis for this limitation in the claim. All dependent claims are subsequently rejected.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 4, 8, 11, 13, 14, and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki et al, U.S. Pub. No. 2003/00193610, in view of Tachibana et al, J.P. Patent No. JP9212620, included in the applicant's Information Disclosure Statement.

Regarding claim 1, Nozaki teaches an image selecting apparatus (electronic camera) for selecting a desired image from among a plurality of images obtained by continuously photographing a subject [0048], comprising: an extractor (shooting evaluation means 3) extracting data from each of said plurality of images [0049, 0226], and a selecting unit (still image selection means 4) selecting a desired image from among said plurality of images, said image satisfying a predetermined selection condition [0049, 0044-0046]. The condition-storing unit storing a predetermined selection condition is inherently taught. Nozaki teaches that evaluation items other than those recited in the Nozaki patent may be used to determine which image to select [0078]. Nozaki does not teach that the selection of an image is based upon a desired aimed object within the image. Tachibana teaches the evaluation of an image based upon expression feature data, which reads on the desired aimed object, and the selection of one particular image from a plurality of images (abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the apparatus of Nozaki with the practice of evaluating a plurality of images based upon expression feature data

taught by Tachibana to make an apparatus that continuously images a subject and selects the image with the best depiction of an aimed object. One of ordinary skill would have been motivated to make such a modification to obtain the best quality image of a human face.

Regarding claim 3, Nozaki teaches that said extractor extracts data based on image information included in each of said images [0071].

Regarding claim 4, Tachibana teaches the detection of a judgement location (expression features) from data of an aimed object (a human face) based on image information included in an image (abstract). Tachibana teaches that a reference face image with average expression feature data is set and the source face image closest to the purpose is selected, which reads on the predetermined selection condition being related to the desirable judgment location, namely, the expression features, and the selection of an image with the desired aimed object (human face) including a judgement location (expression features) satisfying said selection condition (expression features closest to that of reference image) related to said desirable judgement location (abstract).

As best understood from the language of the claim, regarding claim 8, Nozaki teaches a camera [0037] comprising: an input unit (image pick-up means 1) forming an image of a subject [0048], an extractor (shooting evaluation means 3) extracting data from each of said plurality of images formed by the input unit [0049, 0226], and a selecting unit (still image selection means 4) selecting a desired image from among said plurality of images, said image satisfying a predetermined selection condition [0049, 0044-0046]. The condition-storing unit storing a predetermined selection condition is inherently taught. Nozaki teaches that evaluation items other than those recited in the Nozaki patent may be used to determine which image to select

[0078]. Nozaki does not teach that the selection of an image is based upon a desired aimed object within the image. Tachibana teaches the evaluation of an image based upon expression feature data, which reads on the desired aimed object, and the selection of one particular image from a plurality of images (abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the apparatus of Nozaki with the practice of evaluating a plurality of images based upon expression feature data taught by Tachibana to make an apparatus that continuously images a subject and selects the image with the best depiction of an aimed object. One of ordinary skill would have been motivated to make such a modification to obtain the best quality image of a human face.

Regarding claims 11, 13, and 14, because the apparatuses of claims 1, 3, and 4 are taught, the methods corresponding to the apparatuses are also taught.

Regarding claim 17, Nozaki in view of Tachibana teach the apparatus of claim 1. See above. Nozaki teaches a recording medium that stores a program for executing the algorithm of the patent [0081]. It would have been obvious to one of ordinary skill to implement the algorithm of Nozaki in view of Tachibana using a program stored on a recording medium.

4. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki et al, U.S. Pub. No. 2003/00193610, in view of Tachibana et al, J.P. Patent No. JP9212620, and further in view of Mihara et al, U.S. Pub. No. 2002/0126879.

Regarding claim 2, Nozaki in view of Tachibana teach the apparatus of claim 1. See above. Nozaki in view of Tachibana do not teach that the extractor extracts data of said aimed object based on depth information indicating the distance to each part of said subject. Mihara

does teach the extraction of data based on depth information indicating the distance to each part of the subject [0039]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the apparatus that captures multiple images of a subject and selects the best image taught by Nozaki in view of Tachibana with the practice of extracting image data based on distances to the parts of the subject taught by Mihara to make an image sensing apparatus that uses distance information to extract data from a plurality of images and to select the best image. One of ordinary skill would have been motivated to make such a modification to select a high quality image from a plurality of images using extracted image data.

Regarding claim 12, because the apparatus of claim 2 is taught, the method corresponding to the apparatus is also taught.

5. Claims 5-7, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki et al, U.S. Pub. No. 2003/00193610, in view of Tachibana et al, J.P. Patent No. JP9212620, and further in view of Marugame, U.S. Patent 6,226,396.

Regarding claim 5, Nozaki in view of Tachibana teach the apparatus of claim 1. See above. Nozaki in view of Tachibana do not teach that the extractor extracts data of a plurality of aimed objects from each of said plurality of images, and said selecting unit selects a plurality of desired-aimed-objcts for each of said plurality of aimed objects. Marugame teaches the extraction of multiple subjects from an image (col. 1, lines 60-62; col. 8, lines 64-66). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the practice of extracting multiple subjects taught by Marugame with the practice of capturing a plurality of images, extracting the target subject, and selecting a best representation

of the target subject from among the plurality of images taught by Nozaki in view of Tachibana to make an apparatus that continuously photographs a scene, extracts a plurality of aimed objects from each image, and selects an image with the best representation of the multiple aimed objects. One of ordinary skill would have been motivated to make such a modification to obtain an image that maximizes the image quality of as many subjects in the image as possible.

Regarding claim 6, Tachibana teaches the detection of a judgement location (expression features) from data of an aimed object (a human face) based on image information included in an image (abstract). Tachibana teaches that a reference face image with average expression feature data is set and the source face image closest to the purpose is selected, which reads on the predetermined selection condition being related to the desirable judgment location, namely, the expression features, and the selection of an image with the desired aimed object (human face) including a judgement location (expression features) satisfying said selection condition (expression features closest to that of reference image) related to said desirable judgement location (abstract). It would have been obvious to detect judgement locations for each of a plurality of aimed objects, and to select the aimed objects that best satisfy a predetermined condition.

Regarding claims 15 and 16, because the apparatuses of claims 5 and 6 are taught, the methods corresponding to the apparatuses are also taught.

Regarding 7, Tachibana teaches that the plural face images are synthesized based on the data, which reads on an image-composite unit compositing said plurality of desired aimed objects (human faces) to form a composite image, said composite image including said plurality

of desired aimed objects for each of said plurality of aimed objects extracted from said plurality of images (abstract).

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki et al, U.S. Pub. No. 2003/00193610, in view of Tachibana et al, J.P. Patent No. JP9212620, in view of Mihara et al, U.S. Pub. No. 2002/0126879, and further in view of Yoshigahara et al, U.S. Pub. No. 2002/0085747.

Regarding claim 9, Nozaki in view of Tachibana teach the apparatus of claim 8. See above. Nozaki in view of Tachibana in view of Mihara teach the practice of using distance data to extract data from the plurality of images. See above. Nozaki in view of Tachibana in view of Mihara do not teach an input unit that includes a parallactice image data input unit inputting a parallactic image from different view points, wherein the extractor extracts data based on depth information obtained from the parallactic image. Yoshigahara teaches the capturing of an image from different points of view and the determination of distances to parts of the image using the image data captured from different points of view, which reads on the parallactic image [0004]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the apparatus of Nozaki in view of Tachibana in view of Mihara with the practice of using image data captured from different view points to determine the distance to a part of a subject taught by Yoshigahara et al to make an image sensing apparatus that captures multiple frames of image data, determines the distance to parts of the subject using data from different viewpoints, extracts data based on the distance information, and selects

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nozaki et al, U.S. Pub. No. 2003/00193610, in view of Tachibana et al, J.P. Patent No. JP9212620, and further in view of Nonweiler et al, U.S. Patent 6,262,778.

Regarding claim 10, Nozaki in view of Tachibana teach the apparatus of claim 8. See above. Nozaki teaches a plurality of selection conditions that may be used for determining how to select an image from a plurality of images [0072-0078]. Nonweiler et al teaches that a user may select the desired parameters for image processing from a menu of options (col. 3, lines 31-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the practice of setting parameters from a list of options taught by Nonweiler with the multiplicity of selection conditions taught by Nozaki in view of Tachibana to make an apparatus that allows the user to select a selection condition from a display of selection condition options. One of ordinary skill would have been motivated to make such a modification to enable the user to compare the quality of images gained by using different selecting conditions, and to use the selecting condition that produces images best suited to the user's wishes.

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dorothy Wu whose telephone number is 703-305-8412. The examiner can normally be reached on Monday-Friday, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-7644.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703)306-0377.

Dorothy Wu

DW
November 14, 2003

ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600